Control systems
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Damping
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Technical and Computational Aspects of the Measurement of Aggregate Shape by Digital Image Analysis. — Norbert H. Maerz; 18(1), 10-8 (2004).
Three-Dimensional Digital Representation of Granular Material Microstructure from X-Ray Tomography Imaging. — L. B. Wang, J. D. Frost, and J. S. Lai; 18(1), 28-35 (2004).
Characterizing Surface Roughness and Shape of Sands Using Digital Microscopy. — Khalid A. Alshibli and Mustafa I. Alsaleh; 18(1), 36-45 (2004).
Adaptive Cross Correlation for Imaging Displacements in Soils. — Jinyuan Liu and Magued Iskander; 18(1), 46-57 (2004).

Displacement
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Energy consumption
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Engineering education
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Evolutionary computation
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Shuffled Complex Evolution Algorithms in Infrastructure Works Programming. — Charles Nunoo and Donath Mrawira; 18(3), 257-66 (2004).

Finite difference method
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Fluid dynamics
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Fourier analysis
Application of Fourier Analysis to Digital Imaging for Particle Shape Analysis. — Ramitha Wettimuny and Dayakar Penumadu; 18(1), 2-9 (2004).

Friction
Characterizing Surface Roughness and Shape of Sands Using Digital Microscopy. — Khalid A. Alshibli and Mustafa I. Alsaleh; 18(1), 36-45 (2004).

Functional analysis
Functional Networks in Structural Engineering. — S. Rajasekaran; 18(2), 172-81 (2004).

Fuzzy sets
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Fuzzy Waste Load Allocation Model: Simulation-Optimization Approach. — Pradeep P. Mujumdar and V. R. Subbarao Vemula; 18(2), 120-31 (2004).
Constrained Fuzzy c-Mean Clustering Algorithm for Determining Bridge Let Projects. — Yichang (James) Tsai and Chien-Tai Yang; 18(3), 215-25 (2004).

Geographic information systems
Finding Optimal Bus Service Routes: Internet-Based Methodology to Serve Transit Patrons. — Hassan A. Karimi, Ratchata Peachavanish, and Jun Peng; 18(2), 83-91 (2004).

Georgia
Constrained Fuzzy c-Mean Clustering Algorithm for Determining Bridge Let Projects. — Yichang (James) Tsai and Chien-Tai Yang; 18(3), 215-25 (2004).

Geosynthetics
Use of Image Analysis in Determination of Strain Distribution During Geosynthetic Tensile Testing. — Ahmet H. Aydilek, Murat Guler, and Tuncer B. Edil; 18(1), 65-74 (2004).

Geotechnical engineering
Data Division for Developing Neural Networks Applied to Geotechnical Engineering. — Mohamed A. Shahin, Holger R. Maier, and Mark B. Jaksa; 18(2), 105-14 (2004).

Global positioning
Global Optimization of Combined Region Aggregation and Leveling Model. — Yiguo Zhang and Jeff R. Wright; 18(2), 154-61 (2004).
GPSLoc: Framework for Predicting Global Positioning System Quality of Service. — Hassan A. Karimi, Xiong Liu, Shuo Liu, and Amin Hammad; 18(3), 196-206 (2004).

Granular materials
Three-Dimensional Digital Representation of Granular Material Microstructure from X-Ray Tomography Imaging. — L. B. Wang, J. D. Frost, and J. S. Lai; 18(1), 28-35 (2004).
Characterizing Surface Roughness and Shape of Sands Using Digital Microscopy. — Khalid A. Alshibli and Mustafa I. Alsaleh; 18(1), 36-45 (2004).

Highway construction
Application of Imaging Techniques to Geometry Analysis of Aggregate Particles. — C. Chandan, Krishna Sivakumar, Eyad Masad, and Thomas Fletcher; 18(1), 75-82 (2004).

Highway maintenance
Shuffled Complex Evolution Algorithms in Infrastructure Works Programming. — Charles Nunoo and Donath Mrawira; 18(3), 257-66 (2004).

Image analysis
Application of Fourier Analysis to Digital Imaging for Particle Shape Analysis. — Ramitha Wettimuny and Dayakar Penumadu; 18(1), 2-9 (2004).
Technical and Computational Aspects of the Measurement of Aggregate Shape by Digital Image Analysis. — Norbert H. Maerz; 18(1), 10-8 (2004).
Wavelet Analysis of Soil Mass Images for Particle Size Determination. — Seungcheol Shin and Roman D. Hryciw; 18(1), 19-27 (2004).
Automated Quality Assessment of Stone Aggregates Based on Laser Imaging and a Neural Network. — Hyoungkwan Kim, Alan F. Rauch, and Carl T. Haas; 18(1), 58-64 (2004).
Use of Image Analysis in Determination of Strain Distribution During Geosynthetic Tensile Testing. — Ahmet H. Aydilek, Murat Guler, and Tuncer B. Edil; 18(1), 65-74 (2004).
Application of Imaging Techniques to Geometry

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Imaging techniques

Adaptive Cross Correlation for Imaging Displacements in Soils. — Jinyuan Liu and Magued Iskander; 18(1), 46-57 (2004).

Indexing

Informatization Index for the Construction Industry. — Youngsoo Jung, Sangyoon Chin, and Kyungrai Kim; 18(3), 267-76 (2004).

Information systems

Informatization Index for the Construction Industry. — Youngsoo Jung, Sangyoon Chin, and Kyungrai Kim; 18(3), 267-76 (2004).

Information technology (IT)

Assessment of the Computing Component of Civil Engineering Education. — Osama Abudayyeh, Hubo Cai, Steven J. Fenves, Kincho Law, Robert O'Neill, and William Rasdorf; 18(3), 187-95 (2004).

Informatization Index for the Construction Industry. — Youngsoo Jung, Sangyoon Chin, and Kyungrai Kim; 18(3), 267-76 (2004).

Infrastructure

Framework for Managing Life-Cycle Cost of Smart Infrastructure Systems. — Tamer E. El-Diraby and Igor Rasic; 18(2), 115-9 (2004).

Shuffled Complex Evolution Algorithms in Infrastructure Works Programming. — Charles Nunoo and Donath Mrawira; 18(3), 257-66 (2004).

Internet

Finding Optimal Bus Service Routes: Internet-Based Methodology to Serve Transit Patrons. — Hassan A. Karimi, Ratchata Peachavanish, and Jun Peng; 18(2), 83-91 (2004).

Lasers

Automated Quality Assessment of Stone Aggregates Based on Laser Imaging and a Neural Network. — Hyoungkwan Kim, Alan F. Rauch, and Carl T. Haas; 18(1), 58-64 (2004).

Leveling

Global Optimization of Combined Region Aggregation and Leveling Model. — Yiguo Zhang and Jeff R. Wright; 18(2), 154-61 (2004).

Life cycle cost

Framework for Managing Life-Cycle Cost of Smart Infrastructure Systems. — Tamer E. El-Diraby and Igor Rasic; 18(2), 115-9 (2004).

Shuffled Complex Evolution Algorithms in Infrastructure Works Programming. — Charles Nunoo and Donath Mrawira; 18(3), 257-66 (2004).

Maps

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Measurement

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Microscopy

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Three-Dimensional Digital Representation of Granular Material Microstructure from X-Ray Tomography Imaging. — L. B. Wang, J. D. Frost, and J. S. Lai; 18(1), 28-35 (2004).

Models

Framework for Managing Life-Cycle Cost of Smart Infrastructure Systems. — Tamer E. El-Diraby and Igor Rasic; 18(2), 115-9 (2004).

Global Optimization of Combined Region Aggregation and Leveling Model. — Yiguo Zhang and Jeff R. Wright; 18(2), 154-61 (2004).

Monte Carlo method

Computational Platform for Predicting Lifetime System Reliability Profiles for Different Structure Types in a Network. — Ferhat Akgül and Dan M. Frangopol; 18(2), 92-104 (2004).

Morphology

Three-Dimensional Digital Representation of Granular Material Microstructure from X-Ray Tomography Imaging. — L. B. Wang, J. D. Frost, and J. S. Lai; 18(1), 28-35 (2004).

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Automated Quality Assessment of Stone Aggregates Based on Laser Imaging and a Neural Network. — Hyoungkwan Kim, Alan F. Rauch, and Carl T. Haas; 18(1), 58-64 (2004).

Data Division for Developing Neural Networks Applied to Geotechnical Engineering. — Mohamed A. Shahin, Holger R. Maier, and Mark B. Jaksa; 18(2), 105-14 (2004).

Functional Networks in Structural Engineering. — S. Rajasekaran; 18(2), 172-81 (2004).

Simulating the Thermal Behavior of Buildings Using Artificial Neural Networks-Based Coarse-Grain Modeling. — Ian Flood, Raja R A Issa, and Caesar Abi-Shdid; 18(3), 207-14 (2004).

Object-oriented languages

Object-Oriented Paradigm in Programming for Computer-Aided Analysis of Structures. — Alok Madan; 18(3), 226-36 (2004).

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Fuzzy Waste Load Allocation Model: Simulation-Optimization Approach. — Pradeep P. Mujumdar and V. R. Subbarao Vemula; 18(2), 120-31 (2004).

Global Optimization of Combined Region Aggregation and Leveling Model. — Yiguo Zhang and Jeff R. Wright; 18(2), 154-61 (2004).

Object-Oriented Optimization Approach Using Genetic Algorithms for Lattice Towers. — P. Sivakumar, A. Rajaraman, G. M. Samuel Knight, and D. S. Ramachandramurthy; 18(2), 162-71 (2004).

Shuffled Complex Evolution Algorithms in Infrastructure Works Programming. — Charles Nunoo and Donath Mrawira; 18(3), 257-66 (2004).

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Three-Dimensional Digital Representation of Granular Material Microstructure from X-Ray Tomography Imaging. — L. B. Wang, J. D. Frost, and J. S. Lai; 18(1), 28-35 (2004).

Dynamic Three-Dimensional Visualization of Fluid Construction Materials. — Vineet R. Kamat and Julio C. Martinez; 18(3), 237-47 (2004).

Pavement management

Shuffled Complex Evolution Algorithms in Infrastructure Works Programming. — Charles Nunoo and Donath Mrawira; 18(3), 257-66 (2004).

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Computational Platform for Predicting Lifetime System Reliability Profiles for Different Structure Types in a Network. — Ferhat Akgül and Dan M. Frangopol; 18(2), 92-104 (2004).

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Decision Tree Approach to Classify and Quantify Cumulative Impact of Change Orders on Productivity. — Min-Jae Lee, Awad S. Hanna, and Wei-Yin Loh; 18(2), 132-44 (2004).

Quality control

Automated Quality Assessment of Stone Aggregates Based on Laser Imaging and a Neural Network. — Hyoungkwan Kim, Alan F. Rauch, and Carl T. Haas; 18(1), 58-64 (2004).

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Three-Dimensional Digital Representation of Granular Material Microstructure from X-Ray Tomography Imaging. — L. B. Wang, J. D. Frost, and J. S. Lai; 18(1), 28-35 (2004).

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Shuffled Complex Evolution Algorithms in Infrastructure Works Programming. — Charles Nunoo and Donath Mrawira; 18(3), 257-66 (2004).

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Fuzzy Waste Load Allocation Model: Simulation-Optimization Approach. — Pradeep P. Mujumdar and V. R. Subbarao Vemula; 18(2), 120-31 (2004).

Route survey

Finding Optimal Bus Service Routes: Internet-Based Methodology to Serve Transit Patrons. — Hassan A. Karimi, Ratchata Peachavanish, and Jun Peng; 18(2), 83-91 (2004).

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Transit Route Network Design Using Parallel Genetic Algorithm. — Jitendra Agrawal and Tom V. Mathew; 18(3), 248-56 (2004).

Sand

Characterizing Surface Roughness and Shape of Sands Using Digital Microscopy. — Khalid A. Alshibli and Mustafa I. Alsaleh; 18(1), 36-45 (2004).

Seismic response

Semiactive Neurocontrol for Seismic Response Reduction Using Smart Damping Strategy. — Hyung-Jo Jung, Heon-Jae Lee, Woo-Hyun Yoon, Ju-Won Oh, and In-Won Lee; 18(3), 277-80 (2004).

Settlement

Data Division for Developing Neural Networks Applied to Geotechnical Engineering. — Mohamed A. Shahin, Holger R. Maier, and Mark B. Jaksa; 18(2), 105-14 (2004).

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Abebe, A. J.
Information Theory and Neural Networks for Managing Uncertainty in Flood Routing. — A. J. Abebe and Roland K. Price; 18(4), 373-80 (2004).

Abi-Shdid, Caesar
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Transit Route Network Design Using Parallel Genetic Algorithm. — Jitendra Agrawal and Tom V. Mathew; 18(3), 248-56 (2004).

Ahmad, Sajjad
Spatial System Dynamics: New Approach for Simulation of Water Resources Systems. — Sajjad Ahmad and Slobodan P. Simonovic; 18(4), 331-40 (2004).

Akgül, Ferhat
Computational Platform for Predicting Lifetime System Reliability Profiles for Different Structure Types in a Network. — Ferhat Akgül and Dan M. Frangopol; 18(2), 92-104 (2004).

Akinci, Burcu
Navigational Models for Computer Supported Project Management Tasks on Construction Sites. — Jan Reinhardt, Burcu Akinci, and James H. Garrett, Jr.; 18(4), 281-90 (2004).

Al-Mutairi, Mubarek
Modeling and Predicting Biological Performance of Contact Stabilization Process Using Artificial Neural Networks. — Nayef Al-Mutairi, Nabil Kartam, Parviz Koushki, and Mubarek Al-Mutairi; 18(4), 341-9 (2004).

Al-Mutairi, Nayef
Modeling and Predicting Biological Performance of Contact Stabilization Process Using Artificial Neural Networks. — Nayef Al-Mutairi, Nabil Kartam, Parviz Koushki, and Mubarek Al-Mutairi; 18(4), 341-9 (2004).

Alsaleh, Mustafa I.
Characterizing Surface Roughness and Shape of Sands Using Digital Microscopy. — Khalid A. Alshibli and Mustafa I. Alsaleh; 18(1), 36-45 (2004).

Alshibli, Khalid A.
Characterizing Surface Roughness and Shape of Sands Using Digital Microscopy. — Khalid A. Alshibli and Mustafa I. Alsaleh; 18(1), 36-45 (2004).

Aydilek, Ahmet H.
Use of Image Analysis in Determination of Strain Distribution During Geosynthetic Tensile Testing. — Ahmet H. Aydilek, Murat Guler, and Tuncer B. Edil; 18(1), 65-74 (2004).

Bronzini, Michael S.
Arrival Sampling without Replacement for Simulating Fixed Entity Streams in Civil Engineering Systems. — Mohan M. Venigalla and Michael S. Bronzini; 18(4), 313-21 (2004).

Buchheit, Rebecca
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Cai, Hubo
Assessment of the Computing Component of Civil Engineering Education. — Osama Abudayyeh, Hubo Cai, Steven J. Fenves, Kincho Law, Robert O'Neill, and William Rasdorf; 18(3), 187-95 (2004).

Chan, Wah Ho
Discussion of "Building Project Model Support for Automated Labor Monitoring" by R. Sacks, R. Navon, and E. Goldschmidt. — Ming Lu, Wu Chen, and Wah Ho Chan; 18(4), 381-3 (2004).

Chandan, C.
Application of Imaging Techniques to Geometry Analysis of Aggregate Particles. — C. Chandan, Krishna Sivakumar, Eyad Masad, and Thomas Fletcher; 18(1), 75-82 (2004).

Chen, Wu
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Chin, Sangyoon
Informatization Index for the Construction Industry. — Youngsoo Jung, Sangyoon Chin, and Kyungrai Kim; 18(3), 267-76 (2004).

Christodoulou, Symeon
Optimum Bid Markup Calculation Using Neurofuzzy Systems and Multidimensional Risk Analysis Algorithm. — Symeon Christodoulou; 18(4), 322-30 (2004).

Edil, Tuncer B.
Use of Image Analysis in Determination of Strain Distribution During Geosynthetic Tensile Testing. — Ahmet H. Aydilek, Murat Guler, and Tuncer B. Edil; 18(1), 65-74 (2004).

El-Diraby, Tamer E.
Framework for Managing Life-Cycle Cost of Smart Infrastructure Systems. — Tamer E. El-Diraby and Igor Rasic; 18(2), 115-9 (2004).

Faloutsos, Christos
Detecting Semantic Anomalies in Truck Weigh-in-Motion Traffic Data Using Data Mining. — Orna Raz, Rebecca Buchheit, Mary Shaw, Philip Koopman, and Christos Faloutsos; 18(4), 291-300 (2004).

Feng, X. T.
Two-Stepped Evolutionary Algorithm and Its Application to Stability Analysis of Slopes. — C. X. Yang, L. G. Tham, X. T. Feng, Y. J. Wang, and P. K. K. Lee; 18(2), 145-53 (2004).

Fenves, Steven J.
Assessment of the Computing Component of Civil Engineering Education. — Osama Abudayyeh, Hubo Cai, Steven J. Fenves, Kincho Law, Robert O'Neill, and William Rasdorf; 18(3), 187-95 (2004).

Fletcher, Thomas
Application of Imaging Techniques to Geometry Analysis of Aggregate Particles. — C. Chandan, Krishna Sivakumar, Eyad Masad, and Thomas Fletcher; 18(1), 75-82 (2004).

Flood, Ian
Information Technology in Civil Engineering—Future Trends. — James H. Garrett, Jr., Ian Flood, Ian F. C. Smith, and Lucio Soibelman; 18(3), 185-6 (2004).
Simulating the Thermal Behavior of Buildings Using Artificial Neural Networks-Based Coarse-Grain Modeling. — Ian Flood, Raja R A Issa, and Caesar Abi-Shdid; 18(3), 207-14 (2004).

Frangopol, Dan M.
Computational Platform for Predicting Lifetime System Reliability Profiles for Different Structure Types in a Network. — Ferhat Akgül and Dan M. Frangopol; 18(2), 92-104 (2004).

Frost, J. D.
Three-Dimensional Digital Representation of Granular Material Microstructure from X-Ray Tomography Imaging. — L. B. Wang, J. D. Frost, and J. S. Lai; 18(1), 28-35 (2004).

Garrett, James H., Jr.
Information Technology in Civil Engineering—Future Trends. — James H. Garrett, Jr., Ian Flood, Ian F. C. Smith, and Lucio Soibelman; 18(3), 185-6 (2004).
Navigational Models for Computer Supported Project Management Tasks on Construction Sites. — Jan Reinhardt, Burcu Akinci, and James H. Garrett, Jr.; 18(4), 281-90 (2004).

Goldschmidt, E.
Closure to "Building Project Model Support for Automated Labor Monitoring" by R. Sacks, R. Navon, and E. Goldschmidt. — R. Sacks, R. Navon, and E. Goldschmidt; 18(4), 383 (2004).

Guler, Murat
Use of Image Analysis in Determination of Strain Distribution During Geosynthetic Tensile Testing. — Ahmet H. Aydilek, Murat Guler, and Tuncer B. Edil; 18(1), 65-74 (2004).

Haas, Carl T.
Automated Quality Assessment of Stone Aggregates Based on Laser Imaging and a Neural Network. — Hyoungkwan Kim, Alan F. Rauch, and Carl T. Haas; 18(1), 58-64 (2004).

Hammad, Amin
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Hanna, Awad S.
Decision Tree Approach to Classify and Quantify Cumulative Impact of Change Orders on Productivity. — Min-Jae Lee, Awad S. Hanna, and Wei-Yin Loh; 18(2), 132-44 (2004).

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Adaptive Cross Correlation for Imaging Displacements in Soils. — Jinyuan Liu and Magued Iskander; 18(1), 46-57 (2004).

Issa, Raja R A
Simulating the Thermal Behavior of Buildings Using Artificial Neural Networks-Based Coarse-Grain Modeling. — Ian Flood, Raja R A Issa, and Caesar Abi-Shdid; 18(3), 207-14 (2004).

Jaksa, Mark B.
Data Division for Developing Neural Networks Applied to Geotechnical Engineering. — Mohamed A. Shahin, Holger R. Maier, and Mark B. Jaksa; 18(2), 105-14 (2004).

Jeng, Chyuan-Hwan
Quick Seismic Response Estimation of Prestressed Concrete Bridges Using Artificial Neural Networks. — Chyuan-Hwan Jeng and Y. L. Mo; 18(4), 360-72 (2004).

Jung, Hyung-Jo
Semiactive Neurocontrol for Seismic Response Reduction Using Smart Damping Strategy. — Hyung-Jo Jung, Heon-Jae Lee, Woo-Hyun Yoon, Ju-Won Oh, and In-Won Lee; 18(3), 277-80 (2004).

Jung, Youngsoo
Informatization Index for the Construction Industry. — Youngsoo Jung, Sangyoon Chin, and Kyungrai Kim; 18(3), 267-76 (2004).

Kamat, Vineet R.
Dynamic Three-Dimensional Visualization of Fluid Construction Materials. — Vineet R. Kamat and Julio C. Martinez; 18(3), 237-47 (2004).

Karimi, Hassan A.
Finding Optimal Bus Service Routes: Internet-Based Methodology to Serve Transit Patrons. — Hassan A. Karimi, Ratchata Peachavanish, and Jun Peng; 18(2), 83-91 (2004).
GPSLoc: Framework for Predicting Global Positioning System Quality of Service. — Hassan A. Karimi, Xiong Liu, Shuo Liu, and Amin Hammad; 18(3), 196-206 (2004).

Kartam, Nabil
Modeling and Predicting Biological Performance of Contact Stabilization Process Using Artificial Neural Networks. — Nayef Al-Mutairi, Nabil Kartam, Parviz Koushki, and Mubarek Al-Mutairi; 18(4), 341-9 (2004).

Kim, Hyoungkwan
Automated Quality Assessment of Stone Aggregates Based on Laser Imaging and a Neural Network. — Hyoungkwan Kim, Alan F. Rauch, and Carl T. Haas; 18(1), 58-64 (2004).

Kim, Kyungrai
Informatization Index for the Construction Industry. — Youngsoo Jung, Sangyoon Chin, and Kyungrai Kim; 18(3), 267-76 (2004).

Koopman, Philip
Detecting Semantic Anomalies in Truck Weigh-in-Motion Traffic Data Using Data Mining. — Orna Raz, Rebecca Buchheit, Mary Shaw, Philip Koopman, and Christos Faloutsos; 18(4), 291-300 (2004).

Koushki, Parviz
Modeling and Predicting Biological Performance of Contact Stabilization Process Using Artificial Neural Networks. — Nayef Al-Mutairi, Nabil Kartam, Parviz Koushki, and Mubarek Al-Mutairi; 18(4), 341-9 (2004).

Lai, J. S.
Three-Dimensional Digital Representation of Granular Material Microstructure from X-Ray Tomography Imaging. — L. B. Wang, J. D. Frost, and J. S. Lai; 18(1), 28-35 (2004).

Law, Kincho
Assessment of the Computing Component of Civil Engineering Education. — Osama Abudayyeh, Hubo Cai, Steven J. Fenves, Kincho Law, Robert O'Neill, and William Rasdorf; 18(3), 187-95 (2004).

Lee, Heon-Jae
Semiactive Neurocontrol for Seismic Response Reduction Using Smart Damping Strategy. — Hyung-Jo Jung, Heon-Jae Lee, Woo-Hyun Yoon, Ju-Won Oh, and In-Won Lee; 18(3), 277-80 (2004).

Lee, In-Won
Semiactive Neurocontrol for Seismic Response Reduction Using Smart Damping Strategy. — Hyung-Jo Jung, Heon-Jae Lee, Woo-Hyun Yoon, Ju-Won Oh, and In-Won Lee; 18(3), 277-80 (2004).

Lee, Min-Jae
Decision Tree Approach to Classify and Quantify Cumulative Impact of Change Orders on Productivity. — Min-Jae Lee, Awad S. Hanna, and Wei-Yin Loh; 18(2), 132-44 (2004).

Lee, P. K. K.
Two-Stepped Evolutionary Algorithm and Its Application to Stability Analysis of Slopes. — C. X. Yang, L. G. Tham, X. T. Feng, Y. J. Wang, and P. K. K. Lee; 18(2), 145-53 (2004).

Liu, Jinyuan
Adaptive Cross Correlation for Imaging Displacements in Soils. — Jinyuan Liu and Magued Iskander; 18(1), 46-57 (2004).

Liu, Shuo
GPSLoc: Framework for Predicting Global Positioning System Quality of Service. — Hassan A. Karimi, Xiong Liu, Shuo Liu, and Amin Hammad; 18(3), 196-206 (2004).

Liu, Xiong
GPSLoc: Framework for Predicting Global Positioning System Quality of Service. — Hassan A. Karimi, Xiong Liu, Shuo Liu, and Amin Hammad; 18(3), 196-206 (2004).

Loh, Wei-Yin
Decision Tree Approach to Classify and Quantify Cumulative Impact of Change Orders on Productivity. — Min-Jae Lee, Awad S. Hanna, and Wei-Yin Loh; 18(2), 132-44 (2004).

Lu, Ming
Discussion of "Building Project Model Support for Automated Labor Monitoring" by R. Sacks, R. Navon, and E. Goldschmidt. — Ming Lu, Wu Chen, and Wah Ho Chan; 18(4), 381-3 (2004).

Madan, Alok
Object-Oriented Paradigm in Programming for Computer-Aided Analysis of Structures. — Alok Madan; 18(3), 226-36 (2004).

Maerz, Norbert H.
Technical and Computational Aspects of the Measurement of Aggregate Shape by Digital Image Analysis. — Norbert H. Maerz; 18(1), 10-8 (2004).

Maier, Holger R.
Data Division for Developing Neural Networks Applied to Geotechnical Engineering. — Mohamed A. Shahin, Holger R. Maier, and Mark B. Jaksa; 18(2), 105-14 (2004).

Martinez, Julio C.
Dynamic Three-Dimensional Visualization of Fluid Construction Materials. — Vineet R. Kamat and Julio C. Martinez; 18(3), 237-47 (2004).

Maru, Savita
Neural Network for Creep and Shrinkage Deflections in Reinforced Concrete Frames. — Savita Maru and A. K. Nagpal; 18(4), 350-9 (2004).

Marzouk, Mohamed
Discussion of "Clustering Technique for Evaluating and Validating Neural Network Performance" by Jonathan Jingsheng Shi. — Mohamed Marzouk and Osama Moselhi; 18(2), 182-3 (2004).

Masad, Eyad
Advances in the Characterization and Modeling of Civil Engineering Materials Using Imaging Techniques. — Eyad Masad and Krishna Sivakumar; 18(1), 1 (2004).
Application of Imaging Techniques to Geometry Analysis of Aggregate Particles. — C. Chandan, Krishna Sivakumar, Eyad Masad, and Thomas Fletcher; 18(1), 75-82 (2004).

Mathew, Tom V.
Transit Route Network Design Using Parallel Genetic Algorithm. — Jitendra Agrawal and Tom V. Mathew; 18(3), 248-56 (2004).

Minocha, Vijay K.
Discussion of "Prediction of Remaining Service Life of Bridge Decks Using Machine Learning" by Hani G. Melhem and Yousheng Cheng. — Vijay K. Minocha; 18(4), 383-5 (2004).

Mo, Y. L.
Quick Seismic Response Estimation of Prestressed Concrete Bridges Using Artificial Neural Networks. — Chyuan-Hwan Jeng and Y. L. Mo; 18(4), 360-72 (2004).

Moselhi, Osama
Discussion of "Clustering Technique for Evaluating and Validating Neural Network Performance" by Jonathan Jingsheng Shi. — Mohamed Marzouk and Osama Moselhi; 18(2), 182-3 (2004).

Mrawira, Donath
Shuffled Complex Evolution Algorithms in Infrastructure Works Programming. — Charles Nunoo and Donath Mrawira; 18(3), 257-66 (2004).

Mujumdar, Pradeep P.
Fuzzy Waste Load Allocation Model: Simulation-Optimization Approach. — Pradeep P. Mujumdar and V. R. Subbarao Vemula; 18(2), 120-31 (2004).

Nagpal, A. K.
Neural Network for Creep and Shrinkage Deflections in Reinforced Concrete Frames. — Savita Maru and A. K. Nagpal; 18(4), 350-9 (2004).

Navon, R.
Closure to "Building Project Model Support for Automated Labor Monitoring" by R. Sacks, R. Navon, and E. Goldschmidt. — R. Sacks, R. Navon, and E. Goldschmidt; 18(4), 383 (2004).

Nunoo, Charles
Shuffled Complex Evolution Algorithms in Infrastructure Works Programming. — Charles Nunoo and Donath Mrawira; 18(3), 257-66 (2004).

Oh, Ju-Won
Semiactive Neurocontrol for Seismic Response Reduction Using Smart Damping Strategy. — Hyung-Jo Jung, Heon-Jae Lee, Woo-Hyun Yoon, Ju-Won Oh, and In-Won Lee; 18(3), 277-80 (2004).

O'Neill, Robert
Assessment of the Computing Component of Civil Engineering Education. — Osama Abudayyeh, Hubo Cai, Steven J. Fenves, Kincho Law, Robert O'Neill, and William Rasdorf; 18(3), 187-95 (2004).

Peachavanish, Ratchata
Finding Optimal Bus Service Routes: Internet-Based Methodology to Serve Transit Patrons. — Hassan A. Karimi, Ratchata Peachavanish, and Jun Peng; 18(2), 83-91 (2004).

Peng, Jun
Finding Optimal Bus Service Routes: Internet-Based Methodology to Serve Transit Patrons. — Hassan A. Karimi, Ratchata Peachavanish, and Jun Peng; 18(2), 83-91 (2004).

Penumadu, Dayakar
Application of Fourier Analysis to Digital Imaging for Particle Shape Analysis. — Ramitha Wettimuny and Dayakar Penumadu; 18(1), 2-9 (2004).

Price, Roland K.
Information Theory and Neural Networks for Managing Uncertainty in Flood Routing. — A. J. Abebe and Roland K. Price; 18(4), 373-80 (2004).

Rajaraman, A.
Object-Oriented Optimization Approach Using Genetic Algorithms for Lattice Towers. — P. Sivakumar, A. Rajaraman, G. M. Samuel Knight, and D. S. Ramachandramurthy; 18(2), 162-71 (2004).

Rajasekaran, S.
Functional Networks in Structural Engineering. — S. Rajasekaran; 18(2), 172-81 (2004).

Ramachandramurthy, D. S.
Object-Oriented Optimization Approach Using Genetic Algorithms for Lattice Towers. — P. Sivakumar, A. Rajaraman, G. M. Samuel Knight, and D. S. Ramachandramurthy; 18(2), 162-71 (2004).

Rasdorf, William
Assessment of the Computing Component of Civil Engineering Education. — Osama Abudayyeh, Hubo Cai, Steven J. Fenves, Kincho Law, Robert O'Neill, and William Rasdorf; 18(3), 187-95 (2004).

Rasic, Igor
Framework for Managing Life-Cycle Cost of Smart Infrastructure Systems. — Tamer E. El-Diraby and Igor Rasic; 18(2), 115-9 (2004).

Rauch, Alan F.
Automated Quality Assessment of Stone Aggregates Based on Laser Imaging and a Neural Network. — Hyoungkwan Kim, Alan F. Rauch, and Carl T. Haas; 18(1), 58-64 (2004).

Raz, Orna
Detecting Semantic Anomalies in Truck Weigh-in-Motion Traffic Data Using Data Mining. — Orna Raz, Rebecca Buchheit, Mary Shaw, Philip Koopman, and Christos Faloutsos; 18(4), 291-300 (2004).

Reinhardt, Jan
Navigational Models for Computer Supported Project Management Tasks on Construction Sites. — Jan Reinhardt, Burcu Akinci, and James H. Garrett, Jr.; 18(4), 281-90 (2004).

Sacks, R.
Closure to "Building Project Model Support for Automated Labor Monitoring" by R. Sacks, R. Navon, and E. Goldschmidt. — R. Sacks, R. Navon, and E. Goldschmidt; 18(4), 383 (2004).

Sacks, Rafael
Evaluation of Economic Impact of Three-Dimensional Modeling in Precast Concrete Engineering. — Rafael Sacks; 18(4), 301-12 (2004).

Samuel Knight, G. M.
Object-Oriented Optimization Approach Using Genetic Algorithms for Lattice Towers. — P. Sivakumar, A. Rajaraman, G. M. Samuel Knight, and D. S. Ramachandramurthy; 18(2), 162-71 (2004).

Shahin, Mohamed A.
Data Division for Developing Neural Networks Applied to Geotechnical Engineering. — Mohamed A. Shahin, Holger R. Maier, and Mark B. Jaksa; 18(2), 105-14 (2004).

Shaw, Mary
Detecting Semantic Anomalies in Truck Weigh-in-Motion Traffic Data Using Data Mining. — Orna Raz, Rebecca Buchheit, Mary Shaw, Philip Koopman, and Christos Faloutsos; 18(4), 291-300 (2004).

Shi, Jonathan Jingsheng
Closure to "Clustering Technique for Evaluating and Validating Neural Network Performance" by Jonathan Jingsheng Shi. — Jonathan Jingsheng Shi; 18(2), 183-4 (2004).

Shin, Seungcheol
Wavelet Analysis of Soil Mass Images for Particle Size Determination. — Seungcheol Shin and Roman D. Hryciw; 18(1), 19-27 (2004).

Simonovic, Slobodan P.
Spatial System Dynamics: New Approach for Simulation of Water Resources Systems. — Sajjad Ahmad and Slobodan P. Simonovic; 18(4), 331-40 (2004).

Sivakumar, Krishna
Advances in the Characterization and Modeling of Civil Engineering Materials Using Imaging Techniques. — Eyad Masad and Krishna Sivakumar; 18(1), 1 (2004).
Application of Imaging Techniques to Geometry Analysis of Aggregate Particles. — C. Chandan, Krishna Sivakumar, Eyad Masad, and Thomas Fletcher; 18(1), 75-82 (2004).

Sivakumar, P.
Object-Oriented Optimization Approach Using Genetic Algorithms for Lattice Towers. — P. Sivakumar, A. Rajaraman, G. M. Samuel Knight, and D. S. Ramachandramurthy; 18(2), 162-71 (2004).

Smith, Ian F. C.
Information Technology in Civil Engineering—Future Trends. — James H. Garrett, Jr., Ian Flood, Ian F. C. Smith, and Lucio Soibelman; 18(3), 185-6 (2004).

Soibelman, Lucio
Information Technology in Civil Engineering—Future Trends. — James H. Garrett, Jr., Ian Flood, Ian F. C. Smith, and Lucio Soibelman; 18(3), 185-6 (2004).

Subbarao Vemula, V. R.
Fuzzy Waste Load Allocation Model: Simulation-Optimization Approach. — Pradeep P. Mujumdar and V. R. Subbarao Vemula; 18(2), 120-31 (2004).

Tham, L. G.
Two-Stepped Evolutionary Algorithm and Its Application to Stability Analysis of Slopes. — C. X. Yang, L. G. Tham, X. T. Feng, Y. J. Wang, and P. K. K. Lee; 18(2), 145-53 (2004).

Tsai, Yichang (James)
Constrained Fuzzy c-Mean Clustering Algorithm for Determining Bridge Let Projects. — Yichang (James) Tsai and Chien-Tai Yang; 18(3), 215-25 (2004).

Venigalla, Mohan M.
Arrival Sampling without Replacement for Simulating Fixed Entity Streams in Civil Engineering Systems. — Mohan M. Venigalla and Michael S. Bronzini; 18(4), 313-21 (2004).

Wang, L. B.
Three-Dimensional Digital Representation of Granular Material Microstructure from X-Ray Tomography Imaging. — L. B. Wang, J. D. Frost, and J. S. Lai; 18(1), 28-35 (2004).

Wang, Y. J.
Two-Stepped Evolutionary Algorithm and Its Application to Stability Analysis of Slopes. — C. X. Yang, L. G. Tham, X. T. Feng, Y. J. Wang, and P. K. K. Lee; 18(2), 145-53 (2004).

Wettimuny, Ramitha
Application of Fourier Analysis to Digital Imaging for Particle Shape Analysis. — Ramitha Wettimuny and Dayakar Penumadu; 18(1), 2-9 (2004).

Wright, Jeff R.
Global Optimization of Combined Region Aggregation and Leveling Model. — Yiguo Zhang and Jeff R. Wright; 18(2), 154-61 (2004).

Yang, C. X.
Two-Stepped Evolutionary Algorithm and Its Application to Stability Analysis of Slopes. — C. X. Yang, L. G. Tham, X. T. Feng, Y. J. Wang, and P. K. K. Lee; 18(2), 145-53 (2004).

Yang, Chien-Tai
Constrained Fuzzy c-Mean Clustering Algorithm for Determining Bridge Let Projects. — Yichang (James) Tsai and Chien-Tai Yang; 18(3), 215-25 (2004).

Yoon, Woo-Hyun
Semiactive Neurocontrol for Seismic Response Reduction Using Smart Damping Strategy. — Hyung-Jo Jung, Heon-Jae Lee, Woo-Hyun Yoon, Ju-Won Oh, and In-Won Lee; 18(3), 277-80 (2004).

Zhang, Yiguo
Global Optimization of Combined Region Aggregation and Leveling Model. — Yiguo Zhang and Jeff R. Wright; 18(2), 154-61 (2004).